WO 2004/092580 PCT/CA2004/000589

## We claim:

1. A wind turbine for producing energy comprises a rotor on a shaft, said rotor supporting a plurality of blades and being rotatably mounted on said shaft, said blades each having a tip, there being a plurality of tips on said turbine, said tips being connected to support a ring that extends around a circumference formed by said tips, said ring rotating with said blades, said ring having a front and rear surface with rotators mounted to removably contact said ring on said front and rear surfaces, each of said rotators being connected to energy producing equipment, said rotators rotating with said ring when said ring rotates, thereby driving said energy producing equipment, said turbine being controlled by a controller.

- 2. A wind turbine as claimed in Claim 1 wherein said controller is connected to continuously monitor wind conditions and to control a yaw of the turbine, orientation of the blades, number of rotators in contact with said ring in response to changing wind conditions.
- 3. A wind turbine as claimed in any one of Claims 1 or 2 wherein said turbine is a variable speed turbine.
- 4. A wind turbine as claimed in Claim 1 wherein there are brakes that can be operated to stop or slow down a speed of rotation of said turbine.
- 5. A wind turbine as claimed in Claim 1 wherein the number of blades ranges from substantially eight to substantially twenty.
- 6. A wind turbine as claimed in Claim 1 wherein said rotators are at least one of tires, tires made of rubber, steel wheels and metal wheels.
- 7. A wind turbine as claimed in Claim 1 wherein said front and rear surfaces have a plurality of projections and indentations thereon corresponding to indentations and projections respectively on said rotators.
- 8. A wind turbine as claimed in Claim 7 wherein said tires are mounted to power a generator that produces electricity.
- 9. A wind turbine as claimed in Claim 7 wherein said ridges and indentations on said rotators are mounted to drive a generator.
- 10. A wind turbine as claimed in Claim 1 wherein the blades are constructed so that a longitudinal orientation of said blades can be adjusted to control a speed of rotation with varying wind conditions.

WO 2004/092580 PCT/CA2004/000589

11. A wind turbine as claimed in Claim 1 wherein said shaft is supported by a tower.

- 12. A wind turbine as claimed in Claim 1 wherein said wind turbine is mounted on a turntable so that said turbine can be oriented in response to changes in wind direction.
- 13. A wind turbine as claimed in Claim 12 wherein said turntable has wheels thereon.
- 14. A wind turbine as claimed in Claim 13 wherein there is a rail mounted on a base and said wheels ride on said rail.
- 15. A wind turbine as claimed in Claim 1 wherein said blades have an air foil construction.
- 16. A wind turbine as claimed in Claim 14 wherein there are guides to guide said wheels on said rail.
- 17. A wind turbine as claimed in Claim 16 wherein there are retention means to maintain said wheels on said rail.
- 18. A wind turbine as claimed in Claim 14 wherein there are guides and retention means connected to said wheels beneath said rail to hold said wheels on said rail and prevent said wheels from running off said rails.
- 19. A wind turbine as claimed in Claim 1 wherein said energy producing equipment is one or more selected from the group of generators, compressors and pumps.
- 20. A wind turbine as claimed in Claim 11 wherein said blades, rotor, shaft, tower, rotators and energy producing equipment are mounted on a turntable to enable said turbine to be oriented to respond to changes in wind direction.
- 21. A method of operating a wind turbine based on conditions of said wind, said turbine having a rotor on a shaft, said rotor supporting a plurality of blades and being rotatably mounted on said shaft, said blade each having a tip, there being a plurality of tips on said turbine, said tips being connected to support a ring that extends around a circumference formed by said tips, said ring having a front and rear surface with rotators mounted to removably contact said ring on said front and rear surfaces, each of said rotators being connected to energy producing equipment, said rotators

WO 2004/092580 PCT/CA2004/000589

rotating with said ring when said ring rotates, thereby driving said energy producing equipment, said turbine having a controller, said method comprising operating said turbine to have said controller monitor wind conditions, said controller:

- (a) when said wind conditions are sufficient to generate energy from said wind turbine;
- (b) adjusting the yaw, orienting the blades, placing rotators in varying numbers against said ring or removing rotators from said ring to have said turbine generate energy; and
- (c) when said wind conditions are not sufficient to generate energy, operating said turbine to stop said blades from rotating.
- 22. A method of operating a wind turbine for producing energy, said turbine having a rotor on a shaft, said rotor supporting a plurality of blades and being rotatably mounted on said shaft, said blades each having a tip, there being a plurality of tips on said turbine, said tips being connected to support a ring that extends around said tips, said ring rotating with said blades, said ring having a front and rear surface with rotators mounted to removably contact said ring on said front and rear surfaces, each of said rotators being connected to energy producing equipment, said rotators rotating with said ring when said ring rotates, said turbine being controlled by a controller, said method comprising operating said turbine by continuously monitoring wind conditions, adjusting yaw, blade orientation and pressure and number of rotators against said ring or removal of rotators from said ring to produce power output whenever said wind conditions are sufficient.